Appendix D: Lahaina Traffic Circulation Plan

MAUI LONG-RANGE HIGHWAY PLANNING STUDY

LAHAINA TRAFFIC CIRCULATION PLAN

PREPARED FOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

COUNTY OF MAUI DEPARTMENT OF PUBLIC WORKS

COUNTY OF MAUI DEPARTMENT OF PLANNING

In Cooperation With

U.S. Department of Transportation, Federal Highways Administration

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EXECUTIVE SUMMARY

I. INTRODUCTION

A. General

In July 1988, the State Department of Transportation (DOT), in cooperation with the County of Maui, Departments of Planning and Public Works, initiated the Maui Long-Range Highway Planning Study. The purpose of the study was two-fold: The preparation of a long-range highway plan for the island of Maui, with a separate focus on the sub-area of Wailuku-Kahului, and the development of a travel forecast model to analyze, maintain and update the long-range plan.

The Lahaina Traffic Circulation Plan was added to the Maui Long-Range Highway Planning Study in April 1989 to evaluate the impact of the regional and local increases in traffic on the Lahaina area street network. The limits of the study area are Puamana on the south; the Civic Center on the north; the proposed Lahaina Bypass Road on the east (mauka) and the ocean on the west (makai).

B. Planning Process

This study is undertaken, under the auspices of the County-wide Transportation Planning Process (CTPP), where the State of Hawaii and the County of Maui have agreed to participate in a Cooperative, Comprehensive and Continuing (3-C) transportation planning process that would result in long-range transportation improvement programs for the County of Maui. This Executive

Summary presents the findings and recommendations of the Lahaina Traffic Circulation Plan.

C. Scope of the Study

1. Analyze existing traffic operating conditions on the street network.
2. Analyze the street network based upon projected traffic volumes, which reflect the travel forecasts developed for the Maui Long-Range Highway Plan.
3. Recommend short-term traffic improvements to mitigate existing operational problems.
4. Identify future street deficiencies and analyze alternative traffic improvements to mitigate the increase in future traffic volume.
5. Prepare a long-range traffic plan for the Years 2000 and 2010.

D. Goals and Objectives

The goals for this study are summarized as follows:

1. Enhance Lahaina Town's role as the regional center for resident-related commercial and professional services.
2. Emphasize visitor amenities, regional activities and facilities, which convey community identity along Front Street, between Baker and Shaw Streets.
3. Preserve the historic character and charm of Lahaina Town.

The objectives for this study are summarized as follows:

1. Construct the Lahaina Bypass Road.
2. Provide for better pedestrian circulation.
3. Provide additional off-street parking.
4. Reduce or eliminate on-street parking.

5. "Manage" the traffic demand in Lahaina Town.

E. Organization

The organizational structure under which this study was conducted included 3 committees. The Policy Committee (PC) is a standing committee under the CTPP which includes the Directors of the State Department of Transportation, County Department of Planning, and County Department of Public Works. It is responsible for decision-making and providing policy direction. The Technical Advisory Committee (TAC) is made up of the staff members from the State Department of Transportation and County Departments of Planning and Public Works. It is responsible for reviewing and directing the technical work.

Finally, the Citizens Advisory Committee (CAC) consists of members representing a cross section of the citizens and business people from the Lahaina Community. The CAC was organized to provide public input into the planning process.

II. EXISTING CONDITIONS

A. Road Inventory

The road inventory was developed from State DOT and County of Maui files and field observations. The roadways and intersections analyzed were identified by the TAC.

B. Traffic

The State DOT 1987 Traffic Count Survey for the Island of Maui and count data obtained in April 1989 were used to establish the baseline or existing condition. Additional peak period traffic counts were taken to identify existing deficiencies.

C. Findings

Based upon observations of traffic operations and the traffic data collected for this study, traffic generally moves quite well on Honoapiilani Highway and in Lahaina Town.

The improved 4-lane Honoapiilani Highway operates with little or no delay to motorists in both directions of traffic. However, motorists on Lahainaluna Road do experience delays during the morning and evening peak periods of traffic.

In Lahaina Town, there were no observed peak period congestion problems. The primary causes of the occasional queuing of traffic on the roadways in Lahaina Town are: (1) narrow street widths, combined with sections of roadways where there are no sidewalks, or adequate shoulder area, for pedestrians to walk; (2) high on-street parking demand; (3) poor sight distances at intersections; (4) left-turning vehicles at intersections or driveway entrances; and (5) lack of off-street parking lots, combined with inadequate advisory signing to existing off-street parking lots.

III. TRAVEL DEMAND FORECAST

Table 1 shows the travel demand forecasts for the Lahaina Corridor north of Lahaina Town at Fleming Road and south of Lahaina Town at Front Street. For the Years 2000 and 2010, it is assumed that the Lahaina bypass Road has been constructed and is in operation.

Table 1. Travel Demand Forecast*

Location	Total ADT Volumes (Both Directions) Base Year 1987	Travel Forecasts 2000	2010
(North of Lahaina Town)			
Honoapiilani Highway @ Fleming Road	35589	23900	26049
Lahaina Bypass Road North of Kapunakea Street	---	28717	38179
(South of Lahaina Town)			
Honoapiilani Highway @ Front Street	19109	15168	18229
Lahaina Bypass South Terminus	---	10827	15028

*Source: "Maui Long-Range Highway Plan".

IV. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

Traffic demand for the Lahaina corridor north of Lahainaluna road is projected to increase by nearly 50% in the Year 2000 from the base year traffic volume of approximately 36,000 vehicle trips. In addition, the trips that originate and terminate within the Lahaina area are expected to increase tremendously with the proposed development of the State's Lahaina Masterplanned Project. Between the Year 2000 and the Year 2010, another increase of nearly 20% in trips is projected.

Traffic operations in the area of Papalaua Street and Wainee Street will be congested because of the high traffic demand to enter Lahaina Town from the north (and vice versa)

The proposed Lahaina Bypass Road will provide a good ride for the trips that originate and/or terminate on the north or south side of Lahaina Town. Kapunakea Street will most likely be the desired ingress route into Lahaina Town for trips originating north of Kaanapali Resort. Egress from Lahaina Town to areas north of Kaanapali Resort will be shared by Dickenson Street to the Bypass Road and Kapunakea Street.

Trips originating and/or terminating in the Kaanapali Resort area and in the Civic Center area will use Honoapiilani Highway to and from Lahaina Town.

Trips to and from areas south of Lahaina Town will use Honoapiilani Highway and the mauka/makai streets, such as Shaw Street, Prison Street, Dickenson Street and the south leg of Front Street.

From a strictly traffic standpoint, the roadways in Lahaina Town will be able to accommodate the projected traffic demand by widening the roadways to provide sidewalk areas, left-turn lanes at intersections and at driveway access locations, and by removing on-street parking on the high traffic demand streets.

B. Recommendations

1. Short-Term Improvements to Mitigate Existing Problems

a. Adjust the traffic signal timing at the Honoapiilani Highway/Lahainaluna Road intersection to provide more green time for Lahainaluna road while holding to an LOS "D" operation for Honoapiilani Highway.

b. Review sight distance problems created by landscape foliage at the intersections of Lahainaluna road and Wainee Street; at Dickenson Street and Wainee Street; and at Prison Street at Wainee Street; and take appropriate action to reduce foliage and improve sight distance.

c. Install four-way stop control at the Lahainaluna Road/Wainee Street intersection.

d. On Wainee Street, between Papalaua Street and Lahainaluna road, prohibit parking on both sides of the street and provide two-way left-turn lane and sidewalk on the makai side of Wainee Street.

2. **Roadway Improvements for Year 2000 Traffic**

a. Honoapiilani Highway/Kapunakea Street Intersection - Upgrade the Kapunakea Street approaches to the intersection by providing an exclusive left-turn lane and a through/right-turn lane, and upgrade the traffic signal system to full 8-phase operation.

b. Extend Dickenson Street to provide the southern connection between the Bypass Road and south Lahaina Town and to the Kelawea Residential/ Lahainaluna High School/Intermediate School area. The connecting roadway between Dickenson Street and Lahainaluna Road is also recommended just makai of the Bypass road to provide good access to the schools, residential areas and the sugar mill.

c. Revise the traffic patterns in Lahaina Town per Exhibit No. 4. The following specific roadway work is also required to accomplish the traffic pattern revision:

- Revise roadway signing, striping and markings of the affected streets.
- Modify existing traffic signal systems at affected intersections.
- Improve Honoapiilani Highway/Dickenson Street intersection for turning movements, crosswalk markings and install traffic signal system.
- Improve the Wainee street approach to Lahainaluna Road to include a separate left-turn lane and one through lane. Right-of-way required is 56 feet with 36 feet of pavement.
- Add deceleration and right-turn lane on Honoapiilani Highway at Kenui Street.
- Widen Wainee Street, between Kenui Street and Baker Street, to 56 foot right-of-way and 36 feet of pavement.
- Remove parking on Front Street, between Papalaua Street and Canal Street. Install left-turn lanes at Dickenson Street, Prison Street, Hotel Street and at Shaw Street.
- Add left-turn lane on Front Street at Kapunakea Street.
- Provide more off-street public parking facilities.

3. Roadway Improvements for Year 2010

- Honoapiilani Highway/Kapunakea Street - Add second left-turn lane on the Kapunakea Street approaches to the intersection.
- Kenui Street - Widen to 56 foot right-of-way, 36 feet of pavement between Honoapiilani Highway and Wainee Street. Add separate left-turn lane at Kenui Street to south bound Wainee

Street. Provide stop control on Wainee Street approach to the intersection and to the north bound approach on Kenui Street, which will permit the vehicles leaving Honoapiilani Highway at Kenui Street to make a left turn to Wainee Street without having to stop.

- Wainee Street - Widen between Lahainaluna Road and Dickenson Street to 56 foot right-of-way with 36 feet of pavement.
- Initiate TSM measures to reduce traffic demand.
- Provide more off-street public parking facilities.

V. PROJECTS LISTED BY PRIORITY

The following new roadways, or roadway improvement projects, are recommended by relative order of need to accommodate future traffic demands to the Year 2010 in the Lahaina Area.

Priority	Description	Cost ($000)
1.	Lahaina Bypass Road (2 lanes from Honokowai to Launiupoko)	44,600
2.	Dickenson Street Extension to Bypass and connector road to Lahainaluna Road	2,800
3.	Revise traffic circulation pattern in Lahaina Town	
	a. Papalaua Street between Honoapiilani Highway and Wainee Street - one-way mauka provide 2 left-turn lanes at Honoapiilani Highway_	10
	b. Lahainaluna Road; between Honoapiilani Highway and Front Street - one-way makai	17

Priority	Description	Cost ($000)
	c. Dickenson Street, between Honoapiilani Highway and Wainee Street - one-way mauka	5
	d. Add deceleration/left-turn lane on Honoapiilani Highway at Kenui Street	80
	e. Wainee Street, between Baker Street and Kenui Street - widen street to collector road standards	300
	f. Lahainaluna Road/Wainee Street intersection - Improve north bound approach on Wainee Street at Lahainaluna road; provide a left-turn lane, and a through lane	170
	g. Front Street - Remove on-street parking between Papalaua Street and Canal Street; install left-turn storage lanes at Dickenson Street, Canal Street, Prison Street and Shaw Street	10
4.	Honoapiilani Highway/Kapunakea Street Intersection - add second left-turn lane on makai bound approach on Kapunakea Street and adjust traffic signal system	85
5.	Kenui Street, between Honoapiilani Highway and Wainee Street - widen to collector road standards. Add stop control to mauka bound Kenui Street at Wainee Street	75
6.	Lahainaluna Road, between Honoapiilani Highway and Luakini Street - widen to collector road standards	350
7.	Wainee Street, between Lahainaluna Road and Dickenson Street - widen to collector road standards	300

Priority	Description	Cost ($000)
8.	Widen Lahaina Bypass Road to 4 lanes between Honokowai and Dickenson Street	31,600
	Total	$80,402
		($80,402,000)

VI. OTHER MEASURES TO REDUCE TRAFFIC DEMAND

The following Transportation System Management (TSM) techniques could help to reduce part of the projected traffic demand if implemented:

1. Scheduled shuttle service between resort areas and Lahaina Town, e.g., from Kaanapali Resort; or from the Honokowai/Kahana area or from the Kapalua area.
2. Provide peripheral parking area(s) on the north side of Lahaina Town with frequent jitney service to Front Street and Wainee Street. For example, the parking could be located off Kenui Street.
3. Implement a public transit (bus) system for Maui to include Central Maui, Wailea/Kihei and West Maui.
4. Employee parking area mauka of Honoapiilani Highway with shuttle or jitney service to Lahaina Town.